

1 **WHAT IS CLAIMED IS:**

2 1. A flow injection electrochemical detecting device comprising:
3 a base (10) with a top, a front end, a rear end, and sides, and having a
4 recess (12) defined in the top extending to the front end to adapt to receive a
5 working electrode;
6 a cover (20) with a top, a bottom, a front end, a rear end and two
7 sides, which pivotally mounts on the base (10) and has a resilient separator
8 with an inner opening attached to the bottom of the cover (20), and multiple
9 channels defined through the cover (20) to communicate with the inner
10 opening of the resilient separator; and

11 a locking device attached between the base (10) and the cover (20).

12 2. The flow injection electrochemical detecting device as claimed in
13 claim 1, wherein the locking device comprises:

14 two locating posts (14) formed on the top of the base (10) at the front
15 end and each of the two locating posts (14) having a ball (186) retractably
16 mounted inside the locating post (14); and

17 two ball dents (23) defined at the front end of the cover (20) to
18 correspond to the balls (186).

19 3. The flow injection electrochemical detecting device as claimed in
20 claim 2, wherein the cover (20) further has two side cutouts defined at the
21 front end to match with the locating posts (14) and the two ball dents (23) are
22 respectively defined in periphery of the two side cutouts.

23 4. The flow injection electrochemical detecting device as claimed in
24 claim 2, wherein each locating post (14) further has:

1 a threaded hole (142) defined through the locating post (14);
2 a threaded rod (18) received inside the threaded hole (142) and
3 having a bore (182) defined in the threaded rod (18) to receive the ball (186)
4 inside the bore (182); and
5 a resilient element accommodated inside the bore (182) to press the
6 ball (186) to engage and lock with corresponding one of the two ball dents
7 (23).

8 5. The flow injection electrochemical detecting device as claimed in
9 claim 3, wherein each locating post (14) further has:

10 a threaded hole (142) defined through the locating post (14);
11 a threaded rod (18) received inside the threaded hole (142) and
12 having a bore (182) defined in the threaded rod (18) to receive the ball (186)
13 inside the bore (182); and
14 a resilient element accommodated inside the bore (182) to press the
15 ball (186) to engage and lock with corresponding one of the two respective
16 ball dents (23).

17 6. The flow injection electrochemical detecting device as claimed in
18 claim 5, wherein the resilient element is a spring.

19 7. The flow injection electrochemical detecting device as claimed in
20 claim 1, wherein the cover (20) further has an annular trench (28) defined in
21 the bottom of the cover and an O-ring (282) serves as the separator to be
22 partially received inside the annular trench (28).

23 8. The flow injection electrochemical detecting device as claimed in
24 claim 1, wherein the multiple channels are:

1 an inlet (22) defined through the cover (20) from the top;
2 a first outlet (24) defined in the cover (20) from one side; and
3 a second outlet (26) defined in the cover (20) from another side.

4 9. The flow injection electrochemical detecting device as claimed in
5 claim 5, wherein the multiple channels are:

6 an inlet (22) defined through the cover (20) from the top;
7 a first outlet (24) defined in the cover (20) from one side; and
8 a second outlet (26) defined in the cover (20) from another side.

9 10. The flow injection electrochemical detecting device as claimed in
10 claim 7, wherein the multiple channels are:

11 an inlet (22) defined through the cover (20) from the top;
12 a first outlet (24) defined in the cover (20) from one side; and
13 a second outlet (26) defined in the cover (20) from another side.

14 11. The flow injection electrochemical detecting device as claimed in
15 claim 8, wherein the device further has a reference electrode (30) to engage
16 with the first outlet (24).

17 12. The flow injection electrochemical detecting device as claimed in
18 claim 9, wherein the device further has a reference electrode (30) to engage
19 with the first outlet (24).

20 13. The flow injection electrochemical detecting device as claimed in
21 claim 10, wherein the device further has a reference electrode (30) to engage
22 with the first outlet (24).

23 14. The flow injection electrochemical detecting device as claimed in
24 claim 8, wherein the device further has an auxiliary electrode (40) to engage

1 with the second outlet (26).

2 15. The flow injection electrochemical detecting device as claimed in
3 claim 9, wherein the device further has an auxiliary electrode (40) to engage
4 with the second outlet (26).

5 16. The flow injection electrochemical detecting device as claimed in
6 claim 10, wherein the device further has an auxiliary electrode (40) to engage
7 with the second outlet (26).

8 17. The flow injection electrochemical detecting device as claimed in
9 claim 11, wherein the device further has an auxiliary electrode (40) to engage
10 with the second outlet (26).

11 18. The flow injection electrochemical detecting device as claimed in
12 claim 17, wherein the recess (12) is a dovetail recess.

13 19. The flow injection electrochemical detecting device as claimed in
14 claim 17, wherein the base (10) further has multiple grooves defined in the
15 sides of the base to make the base easily held.